

Examining the Unique and Interactive Associations of Gender and Race on PTSD Symptom Severity Among Military Sexual Trauma Survivors

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Objective: Despite a robust association between military sexual trauma (MST) and posttraumatic stress disorder (PTSD), few studies have examined factors that are associated with increased symptom severity. To this end, the current study was designed to examine the unique and interactive effects of gender and race on PTSD symptoms using a sample of MST survivors. **Method:** The sample included 126 veterans (71% Women, 29% Men; 70% Black/African American and 30% White/Caucasian) presenting for psychological services to a MST specialty clinic at a large Southeastern Veterans Affairs (VA) hospital. As part of their intake evaluation, veterans completed a diagnostic interview and battery of self-report questionnaires. **Results:** Results revealed a main effect of gender and race such that veteran men and Black/African American veterans were found to have increased PTSD symptom severity. However, there was not a significant gender by race interaction. **Conclusion:** Findings are discussed with regard to previous research and treatment implications.

Clinical Impact Statement

Given the prevalence and negative outcomes associated with MST, as well as the barriers to care among Black/African American individuals, clinicians should practice cultural humility and work to increase their cultural competence to enhance PTSD treatments for these populations.

Keywords: military sexual trauma, veterans, PTSD, race, gender

Military sexual trauma (MST) is defined by the Veterans Health Administration (VHA) as any incidence of sexual assault or

repeated sexual harassment that occurs during an individual's military service (National Center for PTSD, 2021). Although the exact prevalence of MST is unknown due to methodological heterogeneity and incident underreporting, a recent meta-analysis found that 15.7% of military personnel and veterans report experiences of sexual assault and 31.2% report experiences of sexual harassment while in service (Wilson, 2018). These rates, coupled with the long-lasting harmful consequences of sexual assault (Lofgreen et al., 2017), led the VHA to implement universal screening programs for MST and provide services at no cost to the veteran for any MST related condition regardless of eligibility or copay status.

Notably, MST is associated with increased screening rates of various psychological conditions including, but not limited to, depression, anxiety, and alcohol abuse (Blais & Geiser, 2019; Goldberg et al., 2019). When examining the relationship between MST and mental health outcomes, studies have consistently demonstrated a robust association between MST and posttraumatic stress disorder (PTSD). In fact, compared to other psychiatric diagnoses, MST is most strongly associated with PTSD and is related to an increased risk of PTSD among veterans even after accounting for age, race, and combat exposure (Kang et al., 2005; Kimerling et al., 2007). As currently conceptualized in the Diagnostic and Statistical Manual of Mental Disorders, fifth edition

This article was published Online First June 9, 2022.

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This material is the result of work supported with resources and the use of facilities at the Southeast Louisiana Veterans Health Care System in New Orleans, LA. Amanda M. Raines is supported by the United States Department of Veterans Affairs (Clinical Science Research and Development Service) under Career Development Award-2 IK2CX001978-02. The contents of this article do not represent the views of the Department of Veterans Affairs or the United States Government.

Taylor L. Ceroni served as lead for conceptualization and writing—original draft. Chelsea R. Ennis served in a supporting role for writing—original draft. Mary O. Shapiro served as lead for writing—review and editing. Joseph I. Constans served as lead for resources and contributed equally to editing. C. Laurel Franklin served as lead for supervision and contributed equally to editing. Amanda M. Raines served as lead for data curation and formal analysis and contributed equally to editing.

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(*DSM-5*), PTSD is characterized by a constellation of symptoms that can occur following exposure to actual or threatened death, serious injury, or sexual violence (American Psychiatric Association, 2013). PTSD is associated with poor social and familial relationships, as well as lower educational and occupational success (Schnurr et al., 2009). Moreover, PTSD is linked to an increased risk of suicide and self-injurious behaviors (Ennis et al., 2020; Raines et al., 2017).

Considering these and other negative consequences, a growing body of literature has sought to identify factors that may contribute to the development of PTSD following MST. One such factor is gender (Xue et al., 2015). Indeed, research has found that women veterans are more likely to develop PTSD following MST compared to men (Maguen et al., 2010; Tannahill et al., 2020). However, previous studies have found that veteran men who experience MST have more severe PTSD symptoms than women veterans (Hourani et al., 2015; Shipherd et al., 2009). An epidemiological study of active duty and reserve component service members found that men had more severe sexual assault experiences and were more likely to be assaulted repeatedly than women (Morrall et al., 2015). Further, men were more likely to be assaulted by two or more individuals, experience injury or threats of violence, and describe their MST as intended humiliation and/or hazing compared to women (Morrall et al., 2015). Collectively, these findings suggest that although women likely develop PTSD at higher rates following MST, men diagnosed with PTSD subsequent to MST may exhibit more severe symptoms.

Another variable that may contribute to the development of PTSD following MST is race. Indeed, non-White individuals have been found to have higher rates of lifetime trauma exposure and decreased coping skills, which may put them at greater risk for the development of PTSD (Xue et al., 2015). Consistent with this notion, race, in particular identifying as Black/African American, is a significant risk factor in the development of PTSD in civilian populations (Alegría et al., 2013) and in veteran and military samples (Kaczurkin et al., 2016; McClendon et al., 2019). For example, Black veterans have been found to have more severe PTSD symptoms than White veterans (Dohrenwend et al., 2008; Koo et al., 2016). Despite these findings, no research to date has directly explored the relationship between race and PTSD among veterans who experience MST. Further, previous research has not examined the confluence of both race and gender in relation to PTSD among MST survivors. Such findings are of particular importance as there is some research to suggest that male veterans are less likely to seek services for MST (Turchik et al., 2012) and Black individuals are less likely to complete PTSD treatment (Lester et al., 2010; Sripatha et al., 2019).

Current Study

To this end, the purpose of the current study was designed to examine the unique and interactive effects of gender and race on PTSD symptom severity using a sample of MST survivors. Consistent with previous research, it was hypothesized that there would be a main effect of gender and race on PTSD symptoms. In particular, it was hypothesized that men and Black/African American individuals would be associated with increased PTSD symptom severity. Further, it was hypothesized that there would be an interaction between gender and race such that Black/African

American men would evidence the highest levels of PTSD symptom severity.

Method

Participants and Procedures

The sample consisted of 126 veterans presenting for psychological services to a MST specialty clinic at a large Southeastern Veterans Affairs (VA) hospital. As a part of their intake evaluation, veterans completed a diagnostic interview and battery of self-report questionnaires. Given that the data were collected as part of routine clinical care, informed consent was not obtained. However, the VA IRB approved use of these data for research purposes.

Veterans were primarily women (71%; $n = 90$) with a mean age of 46.63 years ($SD = 12.54$). In terms of racial identity, 70% ($n = 88$) of the sample identified as Black/African American and 30% ($n = 38$) as White/Caucasian. Of those who identified as White/Caucasian, 32% ($n = 12$) identified as men and 68% ($n = 26$) as women. Of those who identified as Black/African American, 27% ($n = 24$) identified as men and 73% ($n = 64$) as women.

Regarding marital status, 37% of the sample was divorced, 27% married, 25% never married, 10% separated, and 1% widowed. Most of the sample served in the Army (45%), followed by Navy (18%), Marine Corps (13%), Air Force (12%), Army National Guard (7%), and Coast Guard (2%), with 3% serving in more than one branch. War zone service included Iraq/Afghanistan (29%), Vietnam (9%), Desert Storm (8%), and other (3%; e.g., peace keeping missions), with 3% serving in multiple war zones, 45% never serving in a war zone, and 3% failing to respond.

With regard to primary diagnoses, 58% of the sample had a primary Trauma-and Stressor-Related Disorder, 19% Depressive Disorder, 10% Personality Disorder, 7% Anxiety Disorder, and 2% Substance-Related and Addictive Disorder, with 4% missing data due to a failure to complete the intake appointment. An additional 13% of the sample met for a Trauma-and Stressor-Related Disorder diagnosis that was not primary. Within this MST sample, the Criterion A event identified for the purposes of assessing PTSD symptoms were as follows: 83% MST (i.e., sexual assault), 5% combat, 3% childhood physical or sexual abuse, 2% major disaster or fire, 2% serious accident, and 5% other (e.g., witnessing someone killed or abused).

Measures

Diagnostic Interview

PTSD diagnoses were determined using a gold standard PTSD assessment, the Clinician Administered PTSD Scale for the *DSM-5* (Weathers et al., 2013). The CAPS-5 is a 30-item structured interview designed to assess for current and lifetime *DSM-5* PTSD diagnostic status and symptom severity. In addition to assessing the 20 *DSM-5* PTSD symptoms, the CAPS-5 includes questions regarding the onset and duration of symptoms, subjective distress, and impact of symptoms on social and occupational functioning. The CAPS-5 interviews were administered to assess current PTSD symptoms by doctoral-level interns and staff psychologists. All other psychiatric diagnoses (e.g., depressive, anxiety, and substance-related and addictive disorders) were determined using an

unstructured clinical interview. All diagnostic interviews completed by an intern were reviewed with a licensed clinical psychologist during a weekly supervision meeting. However, given that these interviews were administered as part of routine clinical care, no interrater reliability data were collected. Further, given that the CAPS-5 was used for diagnostic purposes only, severity ratings were not retained in the records.

Posttraumatic Stress Disorder Checklist for DSM-5 with Criterion A (PCL-5)

The PCL-5 with Criterion A is a 20-item self-report questionnaire designed to measure each of the *DSM-5* PTSD symptom criteria (Weathers et al., 2013). After identifying the worst event (i.e., a very stressful experience involving actual or threatened death, serious injury, or sexual violence), respondents were instructed to read a list of symptoms and indicate their level of distress as it relates to each symptom within the past month. Items were rated using a 5-point Likert-type scale ranging from 0 (*Not at all*) to 4 (*Extremely*) with higher scores reflecting increased PTSD symptom severity. The PCL-5 has been demonstrated to have strong psychometric properties (Bovin et al., 2016). In the current study, the PCL-5 total score demonstrated excellent internal consistency (Cronbach's $\alpha = .93$).

Data Analytic Plan

All analyses were conducted using IBM SPSS Statistics Version 25.0. First, data screening was performed. This included running descriptive statistics to check for data entry errors, missing data, outliers, and normality. Second, means and standard deviations for the dependent variable were examined for the full sample as well as by race and gender. Third, a hierarchical regression analysis was performed to examine the unique and interactive effects of gender (coded 1 = Man and 2 = Woman) and race (coded 1 = White/Caucasian and 2 = Black/African American) on overall PTSD symptom severity. The main effects of gender and race were entered into the first step of the model. The second step of the model included the centered interaction term of gender and race.

Results

Preliminary Analyses

At the item level, missing data ranged from 1% to 5%. As such, missing data were handled using pairwise deletion. Preliminary analyses indicated no threats or violations of normality, multicollinearity, or homoscedasticity. The mean PCL-5 total score for the overall sample as well as by race and gender (see Table 1) were all well above the recommended cut score of 33 set forth by Bovin et al. (2016).

Primary Analyses

A hierarchical linear regression was performed to examine the unique and interactive effects of gender and race on overall PTSD symptom severity. The main effects of gender and race were entered into the first step of the model accounting for 11% of the variance in PCL-5 total scores ($F[2, 109] = 6.58, p = .002$). Both gender ($\beta = -.26, t = -2.82, p = .006, sr^2 = .07$) and race ($\beta = .22, t = 2.40, p = .018, sr^2 = .05$) were significantly associated with overall PTSD symptom severity. In the second and final step of

the model, the centered interaction term was added accounting for an additional 0% of the variance in PCL-5 total scores ($F \text{ Change} = .01, p = .945$). Results revealed that there was not a significant gender by race interaction ($\beta = -.01, t = -.07, p = .954, sr^2 = .00$). As such, the interaction term was not probed.¹

Discussion

The current study was designed to examine the unique and interactive effects of gender and race on PTSD symptom severity using a sample of MST survivors. Consistent with prediction, we found that gender was significantly associated with PTSD symptom severity. In particular, veteran men who experienced MST were found to have increased PTSD symptoms relative to veteran women who experienced MST. This finding is consistent with previous research demonstrating that veteran men who experience MST have more severe PTSD symptoms than veteran women who experience MST (Hourani et al., 2015; Shipherd et al., 2009). This association may be stronger for men than women due to increased stigma and negative beliefs following sexual trauma (Monteith et al., 2019). For example, concerns regarding shame, guilt, and perceived implications regarding one's sexuality and masculinity are posited to strongly influence veteran men's decision to report rape within the military context (Holland et al., 2016; Monteith et al., 2019). The incongruence between these beliefs and the hypermasculine norms prevalent within the military may lead to higher rates of shame and guilt among veteran men who experience MST, which in turn may lead to more severe PTSD.

Additionally, we found that race was significantly associated with PTSD symptom severity. Specifically, Black/African American veterans who experienced MST were found to have increased PTSD symptoms relative to White veterans who experienced MST. This finding is consistent with prior research demonstrating increased rates of PTSD among non-White individuals (Xue et al., 2015). For example, research has shown that relative to White individuals, Black/African American individuals exhibit elevations in PTSD symptoms (Alegría et al., 2013). These findings have been replicated among veterans with researchers finding that Black/African American veterans and military personnel have more severe PTSD symptoms than White veterans (Kaczurkin et al., 2016; McClendon et al., 2019). Although there is some debate regarding the reasons why Black/African American military personnel may be at greater risk for PTSD, several hypotheses have been put forth. Specifically, Black/African American individuals may have higher levels of predeployment trauma and chronic stress, as well as reduced access to mental and medical health care, all of which could influence the impact of MST on the subsequent development of PTSD (Spoont et al., 2015; Xue et al., 2015). Additionally, the empirical evidence has established that Black/African American individuals in the general population have consistently been found to have higher levels of PTSD than their White counterparts, which has been linked to the experience of systemic racism and racial discrimination (Carter, 2007). Future research should explore the impact of the experiences of racial discrimination

¹ A separate hierarchical linear regression was computed using the subsample of veterans who identified MST as their index trauma. Findings remained the same such that there were only main effects of gender and race with men and Black/African American veterans exhibiting increased PTSD symptom severity.

Table 1*PCL-5 Means and Standard Deviations for Overall Sample as Well as by Race and Gender*

Gender	Race		Total <i>M (SD)</i>
	White/Caucasian <i>M (SD)</i>	Black/African American <i>M (SD)</i>	
Male	59.56 (10.24)	66.59 (9.34)	64.55 (9.98)
Female	51.46 (19.30)	58.21 (14.59)	56.21 (16.30)
Total	53.67 (17.53)	60.54 (13.80)	58.52 (15.25)

Note. *M* = Mean. *SD* = Standard Deviation.

and systemic racism on the development and maintenance of PTSD symptoms for veterans who experience MST.

Contrary to prediction, we did not find a significant interactive effect between gender and race on PTSD symptom severity. This finding is inconsistent with a recent study examining racial and ethnic differences by gender in veterans which found that Black men were more likely to screen positive for PTSD than White individuals (Koo et al., 2016). One potential explanation for these discrepant findings is sample selection. For example, Koo et al. (2016) utilized a sample of newly returning combat veterans from Iraq and Afghanistan whereas the current study utilized a sample of MST survivors, almost half of which had no combat exposure. Research has shown that the clinical presentation of PTSD can differ as a function of trauma type (Kelley et al., 2009; Macia et al., 2020). As such, future research should continue to examine gender and racial differences by trauma type in the development and severity of PTSD symptoms.

Findings from the current study have important clinical implications. Veteran men are less likely than veteran women to use mental health services related to their MST (Turchik et al., 2012). Further, Black/African American patients are significantly less likely to complete PTSD treatment compared to White patients (Sripada et al., 2019). Although the VHA has attempted to minimize barriers to care for veterans who experience MST (VHA Directive 2010-033), veteran men are particularly at risk for underreporting (Wilson, 2018). Creating a safe place for men and Black/African American individuals to receive care may facilitate the disclosure of MST, which could in turn increase access to care. Clinicians should be trained on and prepared to discuss racism, masculinity, sexuality, and internalized heterosexism as such topics may impact MST-related treatment. Notably, there are several evidence-based psychotherapies (EBPs) for PTSD, including Prolonged Exposure (PE) therapy, which have been found to be effective in reducing PTSD symptoms across distinct trauma types (Powers et al., 2010). Given the aforementioned barriers to care among men and Black/African individuals, researchers should examine the incremental benefit of increasing the cultural competence of these EBPs.

Findings from the current study should be considered within the context of its limitations. First and foremost, due to the cross-sectional nature of the current study, inferences regarding causality cannot be determined. Prospective studies, which take into account how these variables interact over time, are needed to understand the dynamic relationships between these constructs. Second, the sample size was relatively small. As such, we may have been underpowered to detect more nuanced interactive effects of gender and race on PTSD symptom severity. Third, all constructs of interest were measured using self-report assessments. Future studies should seek to replicate these findings using multimethod assessments and gold

standard diagnostic interviews to assess PTSD symptom severity. Fourth, considering rates of MST underreporting within the VHA (Wilson, 2018), particularly among men, it is unclear if findings from the current investigation will generalize to the broader non-treatment seeking MST population. Indeed, many men may be hesitant to report MST experiences due to feelings of shame and guilt and thus not seek treatment. Fifth, information regarding the number and types of traumas experienced beyond the index event were not collected. As such, we are unable to determine the extent to which these associations are specific MST or a cumulative effect of multiple traumas. Sixth, PTSD is one of only many reactions to experiencing trauma. As such, future studies should consider the impact of gender and race on other outcomes, including depression. Finally, demographic information about participant ethnicity was not collected. Future studies should consider the experiences of other racially minoritized groups in the development of PTSD symptoms, as this has been demonstrated to be a relevant risk factor in previous research (Xue et al., 2015). Despite these limitations, the current study adds to a growing body of literature examining gender and racial differences in PTSD symptom severity, particularly among veterans experiencing MST. Future research should seek to replicate these findings using larger samples, multimethod assessments, and prospective designs.

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Received November 13, 2021

Revision received April 14, 2022

Accepted April 20, 2022 ■